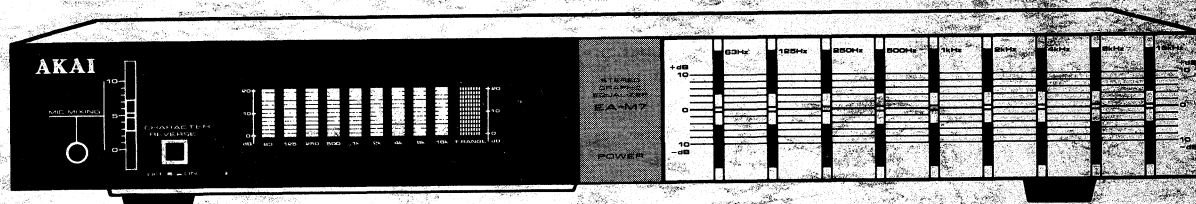
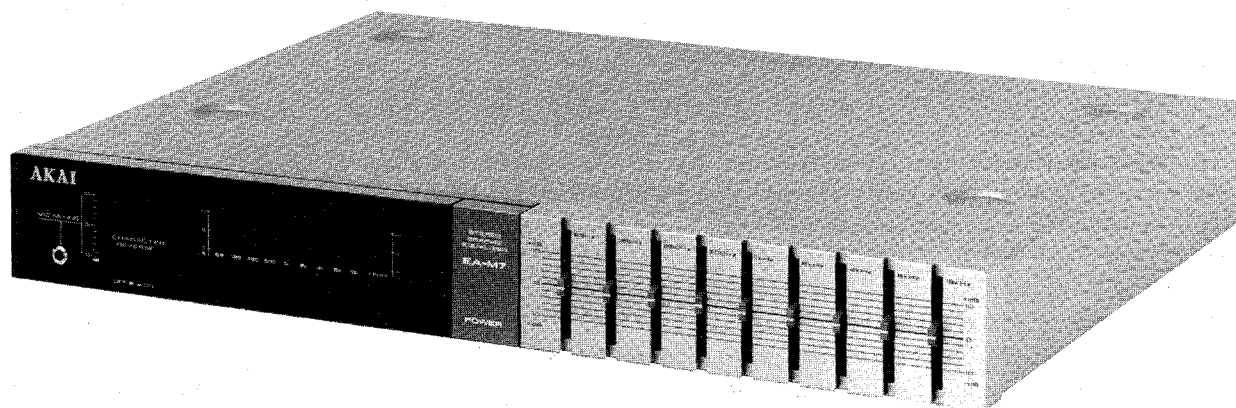


AKAI SERVICE MANUAL



STEREO GRAPHIC EQUALIZER

MODEL **EA-M7**



STEREO GRAPHIC EQUALIZER

MODEL EA-M7

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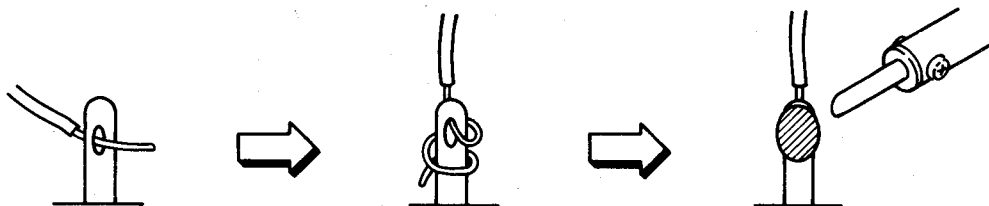
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks, line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the **Δ** symbol parts are critical for safety.
Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
 - 1) Wires covered with PVC tubing
 - 2) Double insulated wires
 - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
 - 1) Insulation Tape
 - 2) PVC tubing
 - 3) Spacers (Insulating Barriers)
 - 4) Insulation sheets for transistors
 - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SECTION 1

SERVICE MANUAL

TABLE CONTENTS

I. SPECIFICATIONS	4
II. VOLTAGE CONVERSION	4
III. FREQUENCY CHARACTERISTICS	5
IV. BLOCK DIAGRAM	6
V. COMPOSITION OF VARIOUS P.C BOARDS	7

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

CENTER FREQUENCY	63 Hz/125 Hz/250 Hz/500 Hz/1 kHz/2 kHz/4 kHz/8 kHz/16 kHz
CONTROL RANGE	±10 dB
INPUT SENSITIVITY/IMP.	LINE MIC 150 mV/47 kohms 0.35 mV
SIGNAL TO NOISE RATIO (IHF-A)	90 dB
DISTORTION	0.02% (20 to 20,000 Hz)
POWER REQUIREMENTS	100V, 50/60 Hz for Japan 120V, 60 Hz for USA & Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK & Australia 110V/120V/220V/240V, 50/60 Hz switchable for other countries
POWER CONSUMPTION	J: 8W A, C, U: 9W E, B, S: 10W
DIMENSIONS	350(W) × 50(H) × 266(D) mm (13.8 × 2.0 × 10.5 inches)
NET WEIGHT	2.1 kg (4.6 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

II. VOLTAGE CONVERSION

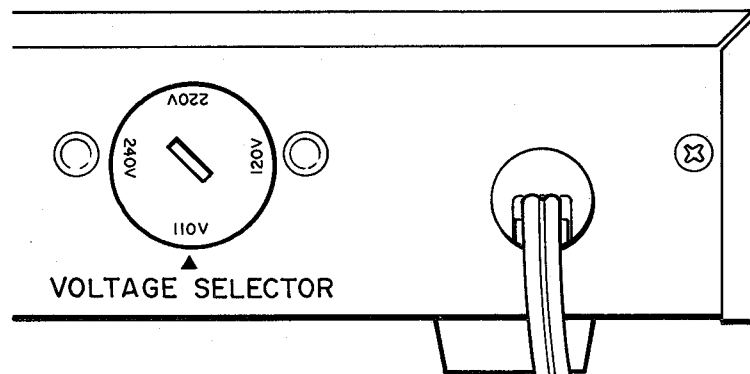


Fig. 1 Rear View

Models for Canada, USA, Europe, UK, Australia and Japan are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V, 120V, 220V or 240V as required. If your machine's voltage can be converted:

1. Disconnect the power cord.
2. Turn the VOLTAGE SELECTOR located on the rear panel with a screwdriver until the correct voltage is indicated.

III. FREQUENCY CHARACTERISTICS

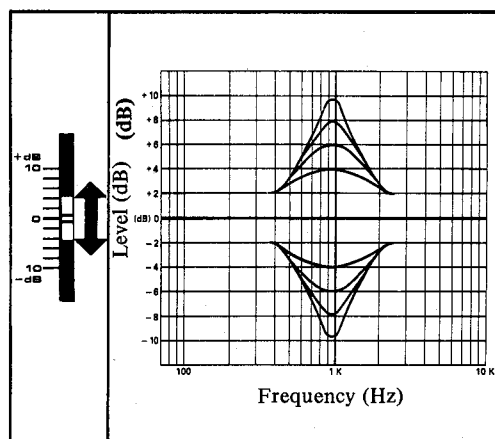


Fig. 2

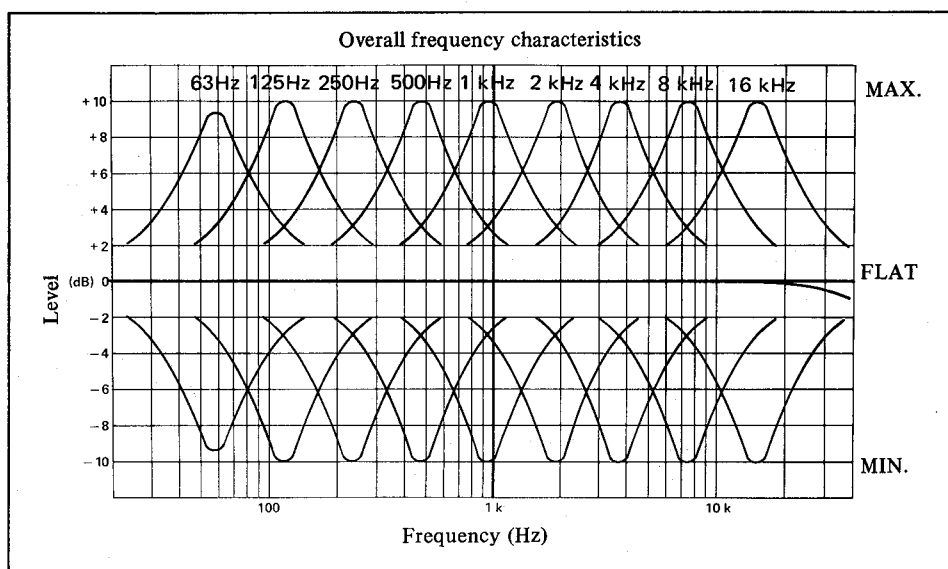


Fig. 3

The level controls divide the frequency range between 63 Hz and 16 kHz into 9 bands. The centre frequency of each band can be boosted or reduced by 10 dB. The boosting and reducing of centre frequencies is called "compensation". When a level control is set to "0", the frequency will be passed on as it is.

IV. BLOCK DIAGRAM

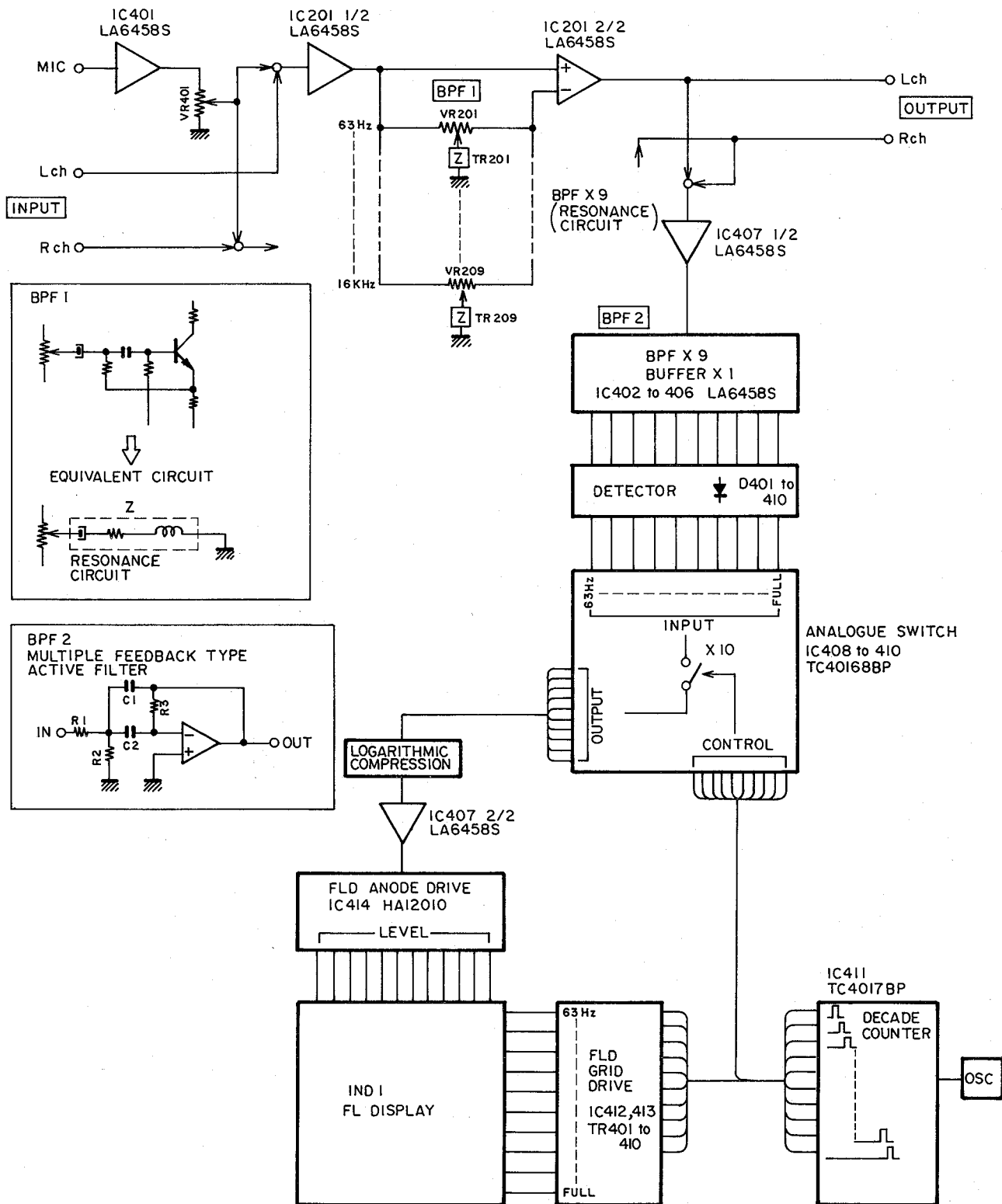
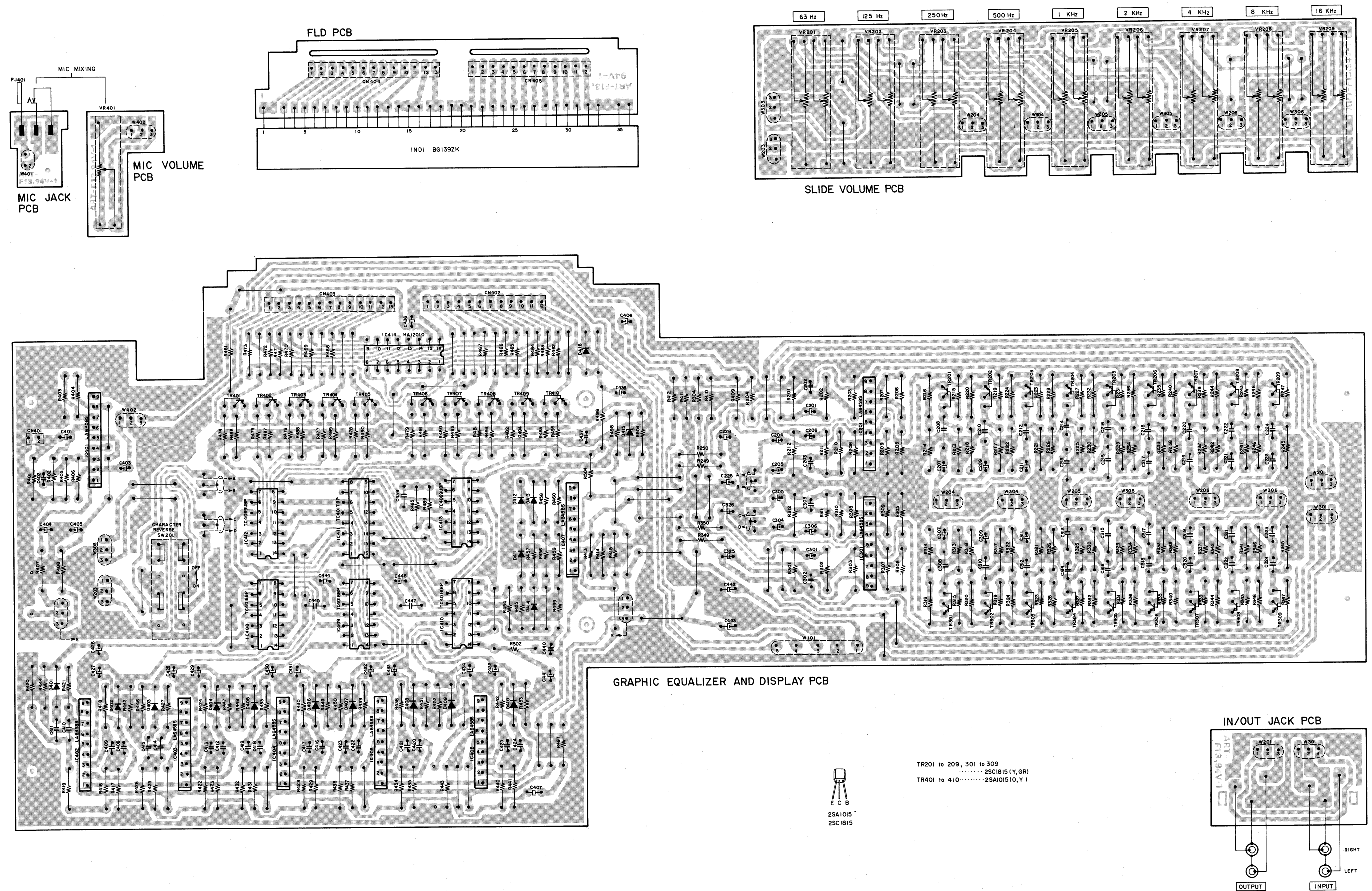


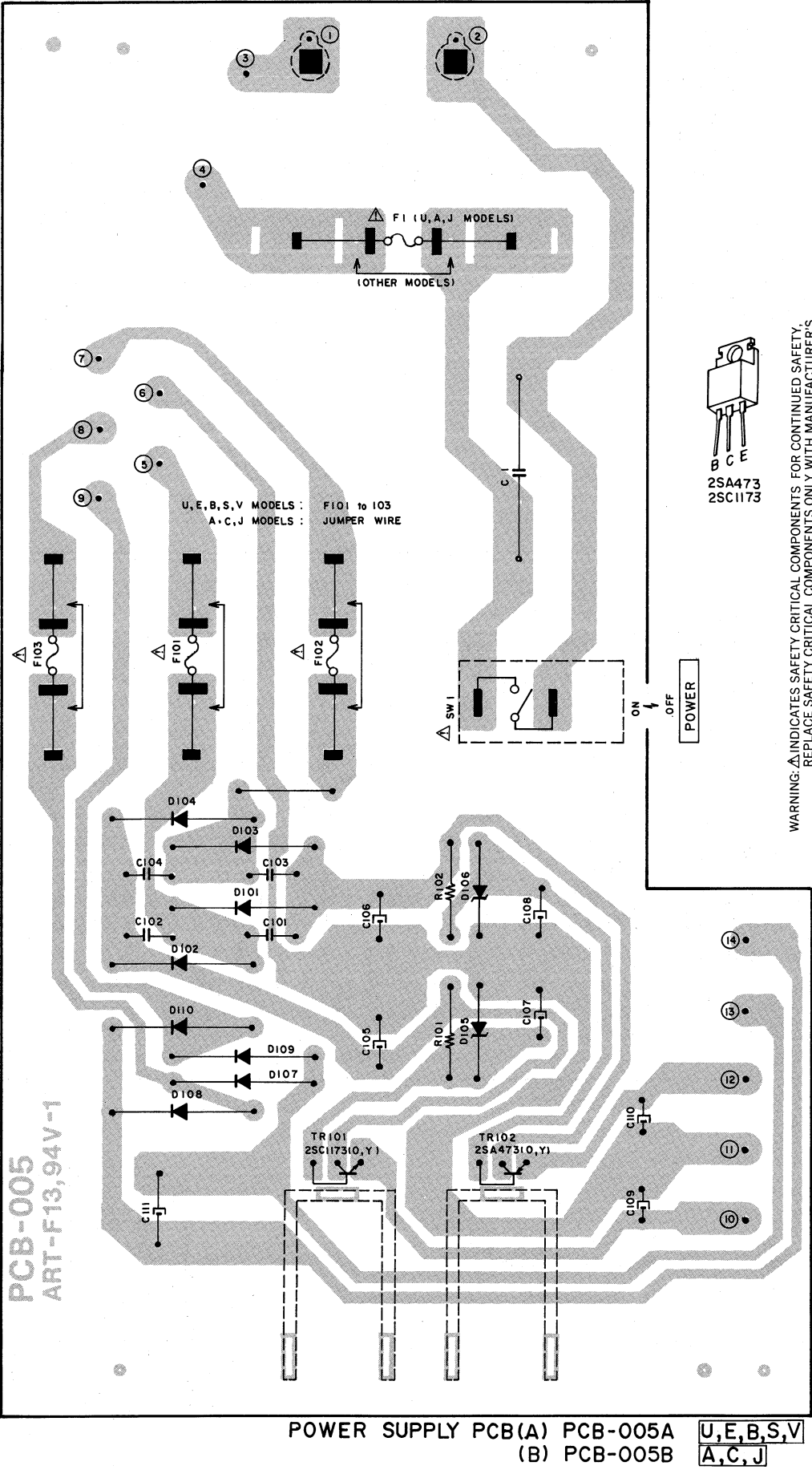
Fig. 4 EA-M7 BLOCK DIAGRAM

V. COMPOSITION OF VARIOUS P.C BOARDS

1. GRAPHIC EQUALIZER AND DISPLAY PCB, SLIDE VOLUME PCB, FLD PCB, MIC VOLUME PCB, MIC JACK PCB and IN/OUT JACK PCB



2. POWER SUPPLY PCB



SECTION 2

PARTS LIST

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2. POWER SUPPLY P.C BOARD BLOCK	11
3. FINAL ASSEMBLY BLOCK	12
INDEX	14

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

ATTENTION

1. When placing an order for parts, be sure to list the parts no., model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Parts List may be partially changed, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List shows the parts that are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts". Select and order such parts from the "Common List for Service Parts".
2. The Recommended Spare Parts shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not be supplied in principle.

4. How to read list

a) Mechanism Block

b) P.C Board Block

2. HEAD BASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

6. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

This reference numbers corresponds with symbol numbers of Schematic Diagrams.

5. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List. It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

1. GRAPHIC EQUALIZER AND DISPLAY P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
1-1	BA-710523	PC GRAPHIC EQUALIZER BLK EA-M7

GRAPHIC EQUALIZER AND DISPLAY P.C BOARD BLK

1-IC201	EI-336761	IC LA6458S
1-IC301	EI-336761	IC LA6458S
1-IC401to407	EI-336761	IC LA6458S
1-IC408to410	EI-337324	IC TC4016BP
1-IC411	EI-709342	IC TC4017BP
1-IC412,413	EI-306726	IC TC4069UBP
1-IC414	EI-709343	IC HA12010
1-TR201to209	ET-305221	TR 2SC1815 O,Y GR
1-TR301to309	ET-305221	TR 2SC1815 O,Y GR
1-TR401to410	ET-325501	TR 2SA1015 O,Y
1-D401to414	ED-557447	D SILICON H 1S1588
1-D415	ED-709346	D ZENER 05Z4.7 Y
1-D416	ED-709344	D ZENER 05Z8.2 Y
1-SW201	ES-347086	SW PUSH SUL191A 2-04-02S
1-R461	ER-265072	R OMF H 2W181J
1-C207,307	EC-334750	C EC V CUT NP LR R68M 50DC
1-C209,309	EC-314986	C EC V CUT NP LR R47M 50DC
1-C211,311	EC-334749	C EC V CUT NP LR R33M 50DC
1-C401	EC-333902	C EC V CUT LL 220 50DC
1-C408,409	EC-710516	C CE 103K 25AC
1-C410,411	EC-710518	C CE 393K 25AC
1-C412,413	EC-710519	C CE 272K 25AC
1-C414,415	EC-710517	C CE 223K 25AC
1-C416,417	EC-710520	C CE 332K 25AC
1-C418,419	EC-710519	C CE 272K 25AC
1-C420,421	EC-710520	C CE 332K 25AC
1-C422,423	EC-710521	C CE 562K 25AC
1-C424,425	EC-710520	C CE 332K 25AC
1-C440	EC-324376	C EC V F05 NP LR 1R0M 50DC

SLIDE VOLUME P.C BOARD

1-VR201to209	EV-347084	VR SLIDE 20 2S 0A B203
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MIC VOLUME P.C BOARD

1-VR401	EV-347085	VR SLIDE 20 1S 0A B502
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IN/OUT JACK P.C BOARD

1-PJ201	EJ-709341	PIN J 4P PJK-004
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MIC JACK P.C BOARD

1-PJ401	EJ-710522	MIC JACK PJK-003
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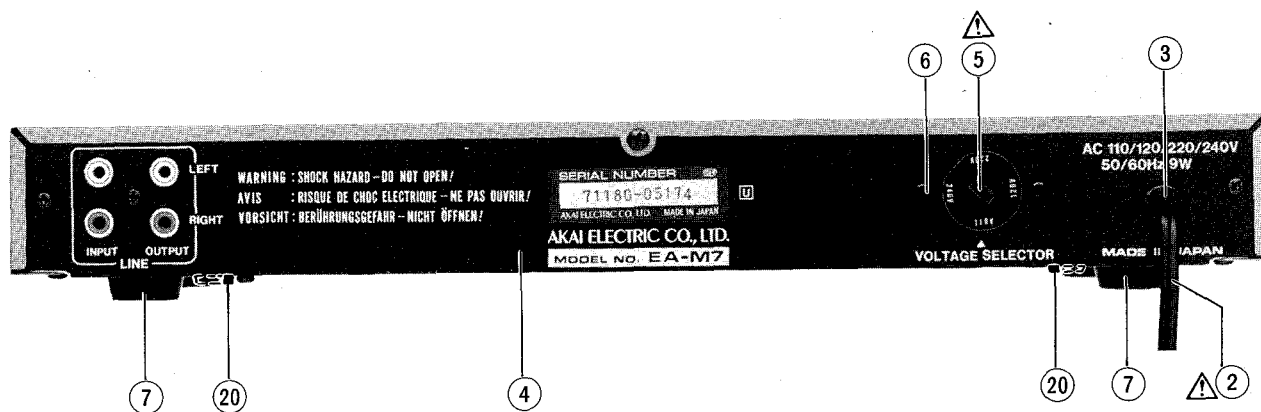
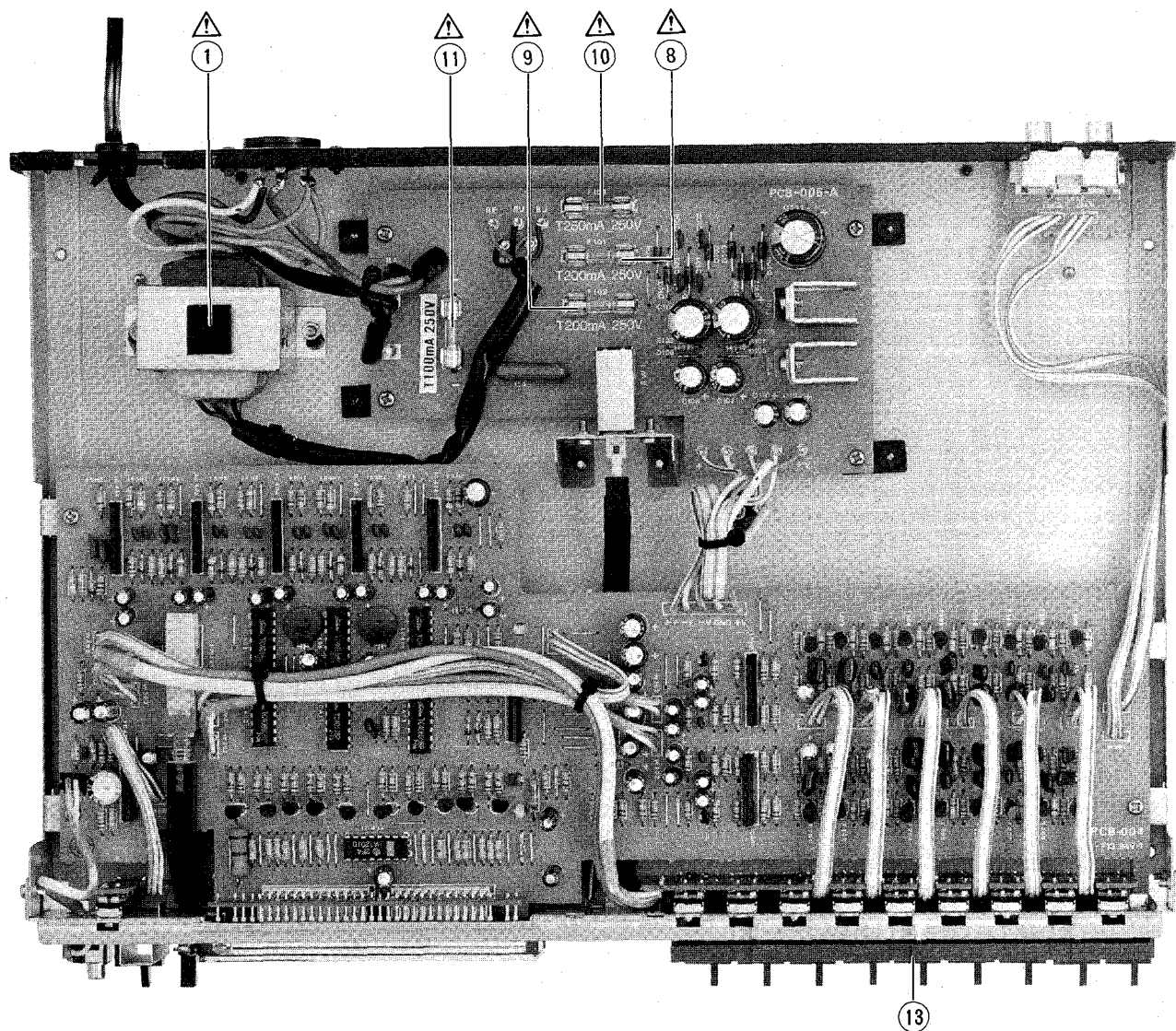
FLD P.C BOARD

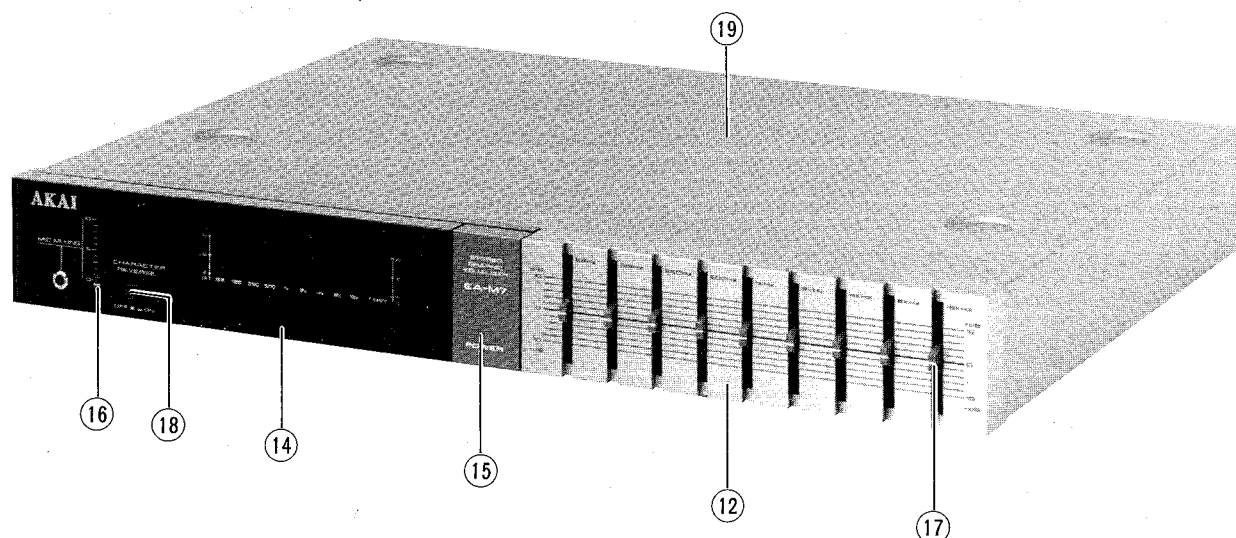
1-IND1	EM-347087	IND FL BG-139ZK
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2. POWER SUPPLY P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-TR101	ET-336941	TR 2SD313 E,F
2-TR102	ET-323348	TR 2SB507HP D,E,F
2-D101to104	ED-306724	D SILICON S5277B 100/1.0A
2-D105,106	ED-337750	D ZENER H 05Z16 Y
2-D107to110	ED-306724	D SILICON S5277B 100/1.0A
2-SW1	ES-337902	Δ SW PUSH SDLD1P 01-1
2-C1U	EC-256950	Δ C MP V 103M 250AC (U,E,B,S,V)
2-C1J	EC-330308	Δ C MMY V ECQUF 103M 250AC (J,C,A)

FINAL ASSEMBLY BLOCK





3. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
3-1U	BT-709339	Δ TRANS POWER PPT-005 EA-M7(U)	3-4C	SP-710503	PANEL REAR EA-M7 (C)
3-1J	BT-709335	Δ TRANS POWER PPT-006 EA-M7(J)	3-4A	SP-710502	PANEL REAR EA-M7 (A)
3-1C	BT-709337	Δ TRANS POWER PPT-003 EA-M7(C)	3-4E	SP-710505	PANEL REAR EA-M7 (E,V)
3-1A	BT-709336	Δ TRANS POWER PPT-002 EA-M7(A)	3-4B	SP-710506	PANEL REAR EA-M7 (B,S)
3-1E	BT-709338	Δ TRANS POWER PPT-004 EA-M7 (E,V)	3-5	ES-709333	Δ VOLTAGE SELECTOR (U)
3-1B	BT-709340	Δ TRANS POWER PPT-007 EA-M7 (B,S)	3-6	ZW-241200	RV NYL30x080 BL (U)
3-2U	EW-306428	Δ AC CORD 2 CORES KP-205A, VFF J (U)	3-7	SA-710514	RUBBER FOOT EA-M7
3-2J	EW-306427	Δ AC CORD 2 CORES KP-211, VFF J (J)	3-8	EF-300588	Δ FUSE EAWK T 250V 0.20A (F101) (U,E,B,S,V)
3-2C	EW-328245	Δ AC CORD 2 CORES KP-8, SPT-1 105C UC (C,A)	3-9	EF-300588	Δ FUSE EAWK T 250V 0.20A (F102) (U,E,B,S,V)
3-2E	EW-313882	Δ AC CORD 2 CORES KP-419C, LTCE-2F E (E,V)	3-10	EF-300586	Δ FUSE EAWK T 250V 0.25A (F103) (U,E,B,S,V)
3-2B	EW-313884	Δ AC CORD 2 CORES GTBS-2F 24/0.20x2 B (B)	3-11U	EF-300575	Δ FUSE EAWK T 250V 0.10A (F1) (U,J)
3-2S	EW-201515	Δ AC CORD 2 CORES KP-560, LT SA-2F S (S)	3-11A	EF-306700	Δ FUSE SS2 250V 0.10A (F1) (A)
3-3	SZ-631945	STRAIN RELIEF SR-4N-4 EXCEPT (B)	3-12	SE-710527	FRONT ESCUTCHEON ASSY EA-M7
3-3B	EJ-692908	STRAIN RELIEF SR-5N-4 (B)	3-13	SE-710509	BACK BOARD EA-M7
3-4U	SP-710507	PANEL REAR EA-M7 (U)	3-14	SE-710510	TRANSPARENT BOARD EA-M7
3-4J	SP-710501	PANEL REAR EA-M7 (J)	3-15	SK-710511	KNOB POWER ASSY EA-M7
			3-16	SK-710512	KNOB SLIDE (BL) EA-M7
			3-17	SK-710513	KNOB SLIDE (BR) EA-M7
			3-18	SK-710528	KNOB PUSH EA-M7
			3-19	SP-710508	UPPER COVER EA-M7
			3-20	SA-305646	RUBBER FOOT (A) (BLACK)

INDEX

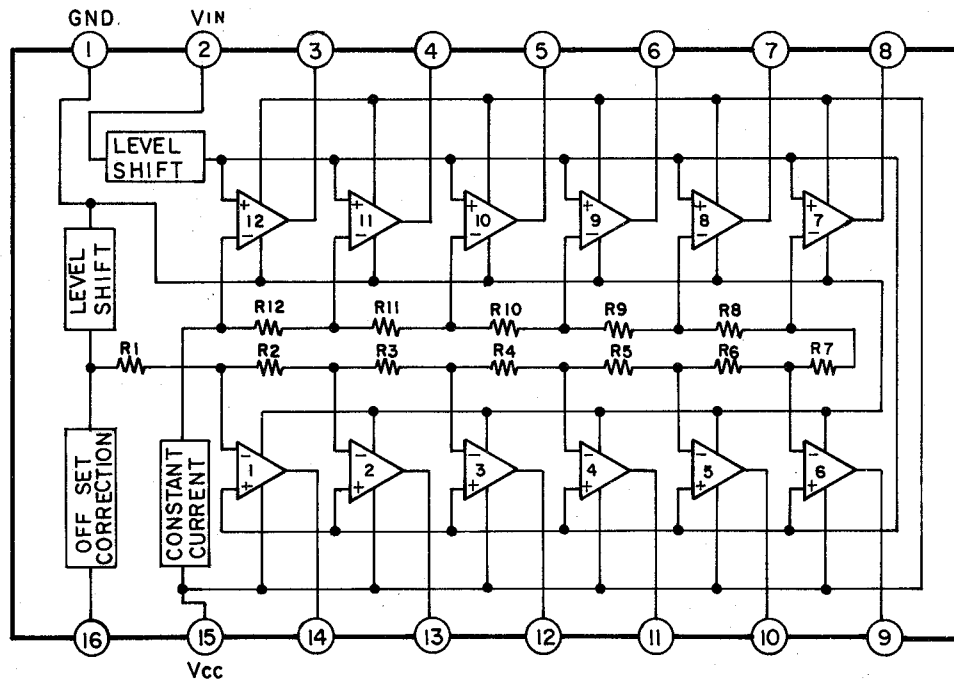
PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO.	PARTS NO.	REF. NO.
BA-710523	1-1						
BT-709335	3-1J						
BT-709336	3-1A						
BT-709337	3-1C						
BT-709338	3-1E						
BT-709339	3-1U						
BT-709340	3-1B						
EC-256950	2-C1U						
EC-314986	1-C209,309						
EC-324376	1-C440						
EC-330308	2-C1J						
EC-333902	1-C401						
EC-334749	1-C211,311						
EC-334750	1-C207,307						
EC-710516	1-C408,409						
EC-710517	1-C414,415						
EC-710518	1-C410,411						
EC-710519	1-C418,419						
EC-710519	1-C412,413						
EC-710520	1-C416,417						
EC-710520	1-C420,421						
EC-710520	1-C424,425						
EC-710521	1-C422,423						
ED-306724	2-D107to110						
ED-306724	2-D101to104						
ED-337750	2-D105,106						
ED-557447	1-D401to414						
ED-709344	1-D416						
ED-709346	1-D415						
EF-300575	3-11U						
EF-300586	3-10						
EF-300588	3-9						
EF-300588	3-8						
EF-306700	3-11A						
EI-306726	1-IC412,413						
EI-336761	1-IC401to407						
EI-336761	1-IC201						
EI-336761	1-IC301						
EI-337324	1-IC408to410						
EI-709342	1-IC411						
EI-709343	1-IC414						
EJ-692908	3-3B						
EJ-709341	1-PJ201						
EJ-710522	1-PJ401						
EM-347087	1-IND1						
ER-265072	1-R461						
ES-337902	2-SW1						
ES-347086	1-SW201						
ES-709333	3-5						
ET-305221	1-TR201to209						
ET-305221	1-TR301to309						
ET-323348	2-TR102						
ET-325501	1-TR401to410						
ET-336941	2-TR101						
EV-347084	1-VR201to209						
EV-347085	1-VR401						
EW-201515	3-2S						
EW-306427	3-2J						
EW-306428	3-2U						
EW-313882	3-2E						
EW-313884	3-2B						
EW-328245	3-2C						
SA-305646	3-20						
SA-710514	3-7						
SE-710509	3-13						
SE-710510	3-14						
SE-710527	3-12						
SK-710511	3-15						
SK-710512	3-16						
SK-710513	3-17						
SK-710528	3-18						
SP-710501	3-4J						
SP-710502	3-4A						
SP-710503	3-4C						
SP-710505	3-4E						
SP-710506	3-4B						
SP-710507	3-4U						
SP-710508	3-19						
SZ-631945	3-3						
ZW-241200	3-6						

SECTION 3

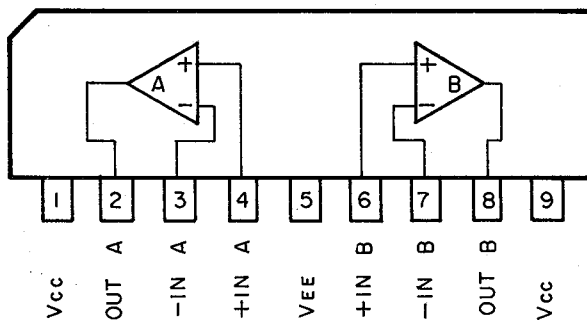
SCHEMATIC DIAGRAM

1. SCHEMATIC DIAGRAM OF ICs 15
2. EA-M7 NO. 830121A SCHEMATIC DIAGRAM 17

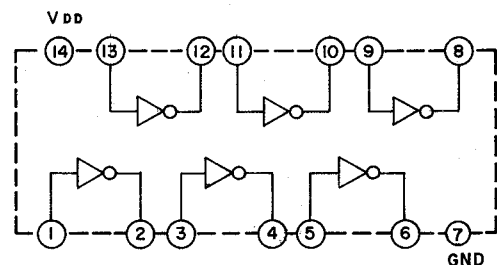
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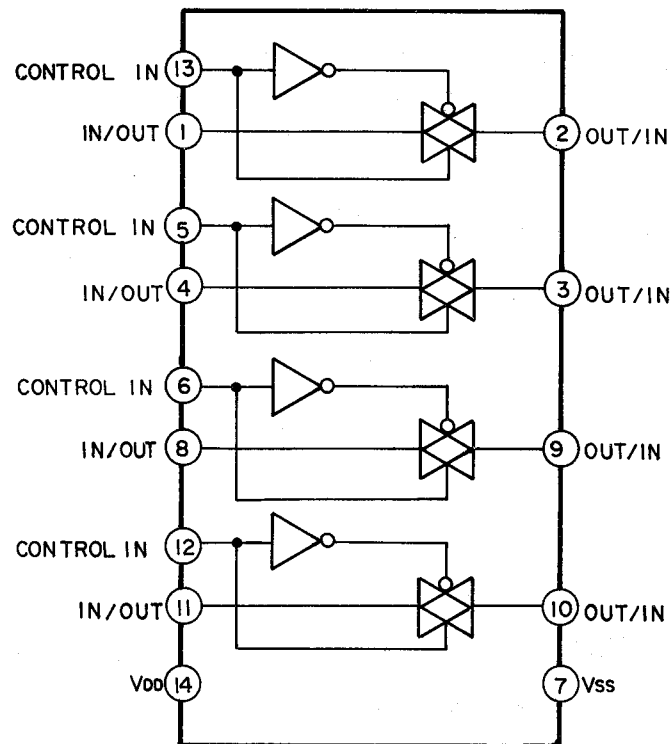
LA6458S



TC4069UBP



TC4016BP



TC4017BP

